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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/25/2006

Martin James Fisher

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EXAMINER

BELLINGER, JASON R

ART UNIT

PAPER NUMBER

3617

NOTIFICATION DATE

DELIVERY MODE

06/04/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@crbcp.com

Office Action Summary	Application No. 10/599,291	Applicant(s) FISHER, MARTIN JAMES	
	Examiner Jason R. Bellinger	Art Unit 3617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2009 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Drawings

1. The drawings were received on 26 February 2009. These drawings are not approved.
2. The drawings are objected to because new matter has been added to Figure 2b. Namely, the structure of the TPIS is considered to be new matter, given the fact that this structure was not previously described in the original specification. At most, a phantom box can be used to represent the TPIS.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the hollow formations or ribs as set forth in claims 16 and 23; and the side wall of the body flaring radially outwardly from the end wall to the flange as set forth in claim 24; must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The abstract of the disclosure is objected to because it contains legal terms (see below). Correction is required. See MPEP § 608.01(b).

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The disclosure is objected to because of the following informalities: The term "centre" should be replaced with the term --center-- throughout the specification, for grammatical clarity.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 13-17 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mackness in view of Johnson. Mackness shows an aircraft wheel assembly having all the features set forth in the claims, except for the following:

Mackness does not show a side wall of the cap member 28 including at least one stiffening rib or formation. Johnson teaches the use of a hubcap 20 having a plurality of equidistantly spaced ribs 28 on a side wall of the hubcap 20. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cap of Mackness with ribs for the purpose of increasing heat transfer, thus cooling the hubcap and wheel components thereby preventing undue damage. It should be noted that the ribs taught by Johnson are capable of influencing the flow of air around the cap, which could reduce noise generated by air flowing around the wheel assembly.

Mackness as modified by Johnson does not show the ribs being hollow or increasing in thickness towards an open end of the cap. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the ribs with any shape and/or configuration depending upon the aesthetic appearance desired for the wheel assembly and/or the function of the ribs. For example, one of ordinary skill in the art would have found it obvious to make the ribs hollow, in order to reduce the weight of the hubcap, thus reducing the overall weight of the wheel assembly. Furthermore, it would have been obvious to one of ordinary skill in the art to have the ribs increase in thickness, in order to increase the surface area of the ribs, thus increasing heat transfer.

It should be noted that a portion of the tire pressure sensing means (namely the RF transceiver 20) of Mackness is mounted on the cap 28.

9. Claims 18 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mackness in view of Johnson as applied to claims 13-17 and 19-21 above, and further in view of Gorges. Mackness as modified by Johnson does not show the body of the cap tapering radially outwardly from the end wall thereof. Gorges teaches the use of a hubcap 60 having a radially outwardly tapered body. Therefore, from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to form the cap of Mackness as modified by Johnson with a tapered body, as a substitute equivalent shape, dependent upon the aesthetic appearance desired.

Mackness as modified by Johnson also does not show a slot located in the cap for receiving sensing components. Gorges teaches the use of slots 90, which receive sensing components. Therefore from this teaching, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the cap of Mackness as modified by Johnson with such a slot, in order to have a dedicated location for mounting sensing components. While Mackness as modified by Johnson and Gorges does not show the slot extending from a flange into a side wall of the body, one of ordinary skill in the art would find it obvious to locate the slot in any location having suitable space, dependent upon clearance issues with other components of the wheel assembly.

Response to Arguments

10. Applicant's arguments filed 26 February 2009 have been fully considered but they are not persuasive. Applicant argues that Johnson does not show a hubcap, but instead shows an end cap. However, the Applicant is arguing semantics. The cap or cover of Johnson is mounted in the hub area of a wheel, and thus may be called a "hub" cap or "end" cap. Furthermore, Johnson has only been used to teach the use of ribs on the periphery of a cap, and not the structure (or intended use) of the cap itself. Mackness shows the hub cap structure. It should further be noted that the Applicant is arguing the Johnson reference singly (see below).

The Applicant argues that there is not teaching of how to orient the vanes 28 of Johnson in order to reduce noise. However, it should be noted that the ribs/vanes 28 of Johnson are oriented in the same manner as the invention. The Applicant further argues that the references do not "teach or hint at noise reduction" and that "the Examiner's assumption that the vanes of Johnson could reduce noise" is merely hindsight "without any evidence" to support it. First, the Applicant is directed to section 12 below with regards to the hindsight argument. Second, the references do not need to provide a teaching for every possible use of the invention. See *KSR International Co. v. Teleflex Inc.* 550 U.S. ___, 82 USPQ2d 1385 (April 30, 2007). In this case, the ribs/vanes of Johnson have an intended purpose of providing heat dissipation. However, one of ordinary skill in the art would also realize that these ribs/vanes part of the heat dissipation from the ribs/vanes is caused by airflow over the ribs/vanes. One of ordinary skill in the art would further realize that the shape of the ribs/vanes would cause a

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turbulent airflow therearound, which is capable of influencing the noise level of the hubcap during rotation. Sufficient motivation has been provided in the rejection for the combination. Third, it is up to the Applicant to provide the evidence that the ribs/vanes of Johnson are not capable of reducing noise (see *In Re Best* (195 USPQ430, 433 562 F.2d 1252 CCPA 1977) and MPEP 2112).

The Applicant further argues that there can be not expectation that the ribs/vanes of Johnson would be effective as a heat dissipate for an aircraft hubcap, given the fact that Johnson is intended to be used on “relatively slow moving boat trailers” and not on “relatively fast moving aircraft”. However, the Applicant has not provided any evidence (in the form of declarations or affidavits filed under 37 CFR 1.131 or 1.132) to support this argument.

11. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

12. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was

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within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

13. In response to applicant's argument that Johnson is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, the Applicant argues that Johnson is used on boat trailers for cooling, while the invention is used on aircraft wheels. First, the Applicant is arguing an intended use of the hub cap. Hub caps are known to be used on many varieties of vehicles. Second, Johnson was only used to teach the use of peripheral ribs on a cap, while Mackness shows the remaining structure of the hub cap. It should be noted that the Applicant conceded that Mackness is related to hubcap "for use on aircraft".

Conclusion

14. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason R. Bellinger whose telephone number is 571-272-6680. The examiner can normally be reached on Mon - Thurs (9:00-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Morano can be reached on 571-272-6684. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason R Bellinger/
Primary Examiner
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